

ABSTRACT

The present invention relates to a method for quickly determining cAMP content or an adenylate cyclase activity in a biological sample containing non-cyclic adenine nucleotides without the use of radioactive agents.

Particularly, the present invention provides a method of determining cAMP content or an adenylate cyclase activity in a biological sample containing non-cyclic adenine nucleotides selected from the group consisting of cAMP produced by endogenous adenylate cyclase, and AMP, ATP, ADP and a mixture thereof, which comprises (1) combining a biological sample with effective amounts of apyrase, adenosine deaminase and alkaline phosphatase to enzymatically remove non-cyclic adenine nucleotides other than cAMP, and glucose-6-phosphate in the sample; (2) enzymatically converting cAMP into AMP; (3) determining an amount of AMP without the use of radioactive agents, and a kit to carry out the method.